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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,796	04/21/2006	John S. Debenham	21176Yp	5856

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EXAMINER	
DESAL, RITA J	

ART UNIT	PAPER NUMBER
1625	

MAIL DATE	DELIVERY MODE
12/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,796	DEBENHAM ET AL.	
	Examiner	Art Unit	
	Rita J. Desai	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-7 and 13 are pending.

Response to arguments :-

Applicants have amended the claims to a certain extent. Claims 1-6 and 13 are rejected.

Claims 7 is allowable.

The claims still have various substitutents for R7, R8 Ra and Rb. These include very large generic groups and which are then further substituted.

Applicants argue and show all the different examples for the different substitutents, but the claims are not just substituted but further substituted. The examples given by the specifications are understandable. How ever the claims still contains thousands of substitutions and with the various permutations and combinations the scope is not enabled but nebulous also.

Some of the substitution on the groups are given as follows:-

each R^a is independently selected from:

(1) -OR^e,
(2) -$NR^dS(O)_{m}R^e$,
(3) -NO_2,
(4) halogen,
(5) -$S(O)_mR^c$,
(6) -SR^e,
(7) -$S(O)_2OR^e$,
(8) -$S(O)_mNR^eR^f$,
(9) -NR^eR^f,
(10) -$O(CR^eR^f)_nNR^eR^f$,
(11) -$C(O)R^e$,
(12) -CO_2R^e,
(13) -$CO_2(CR^eR^f)_nCONR^eR^f$,
(14) -$OC(O)R^e$,
(15) -CN,
(16) -$C(O)NR^eR^f$,
(17) -$NR^dC(O)R^e$,
(18) -$NR^dC(O)OR^e$,
(19) -$NR^dC(O)NR^eR^e$,
(20) -$CR^d(N-OR^e)$,
(21) -CF_3,
(22) -OCF_3
(23) C_{3-8}cycloalkyl, and
(24) cycloheteroalkyl;

wherein each cycloalkyl and cycloheteroalkyl moiety is unsubstituted or substituted with one, two or three substituents independently selected from R^b;

each R^b is independently selected from:

(1) R^a,
(2) C_{1-10}alkyl,
(3) cycloalkylC_{1-4}alkyl-,
(4) cycloheteroalkylC_{1-4}alkyl-,
(5) aryl,
(6) arylC_{1-4}alkyl-,
(7) heteroaryl, and
(8) heteroarylC_{1-4}alkyl-,

wherein each cycloalkyl, cycloheteroalkyl, aryl and heteroaryl moiety is unsubstituted or substituted with one, two or three substituents independently selected from R^b;

each R^c is independently selected from:

(1) hydrogen,

(2) C_{1-10}alkyl,
(3) C_{2-10} alkenyl,
(4) C_{2-10}alkynyl,
(5) C_{1-8} perfluoroalkyl,
(6) cycloalkyl,
(7) cycloalkyl-C_{1-10}alkyl-,
(8) cycloheteroalkyl,
(9) cycloheteroalkyl-C_{1-10} alkyl-,
(10) aryl,
(11) heteroaryl,
(12) aryl-C_{1-10}alkyl-,
(13) heteroaryl-C_{1-10}alkyl-, and
(14) $-NR^dR^d$,

wherein each alkyl, cycloalkyl, cycloheteroalkyl, aryl, and heteroaryl moiety is unsubstituted or substituted with one or two R^b substituents, and each alkyl, cycloalkyl, cycloheteroalkyl may also be substituted on a carbon or sulfur atom with one or two oxo substituents.

each R^d is independently selected from hydrogen, C_{1-10}alkyl, C_{1-10}alkylcarbonyl-, aryl, arylcarbonyl-, arylsulfonyl-, and C_{1-10}alkylsulfonyl-; wherein each alkyl and aryl moiety is unsubstituted or substituted with one, two or three substituents independently selected from R^b;

R^e and R^f are independently selected from hydrogen, C_{1-10}alkyl, C_{2-10} alkenyl, C_{2-10}alkynyl, trifluoromethyl, cycloalkyl, cycloalkyl-C_{1-10} alkyl, cycloheteroalkyl, cycloheteroalkyl-C_{1-10} alkyl, aryl, heteroaryl, aryl-C_{1-10} alkyl, and heteroaryl-C_{1-10} alkyl in each occurrence; or

when bonded to the same atom, Re and Rf together with the atom to which they are attached form a ring of 5 to 7 members containing 0, 1, or 2 heteroatoms independently selected from oxygen, sulfur and nitrogen; and

each R^e and R^f moiety is unsubstituted or substituted on a carbon or nitrogen atom with one, two or three substituents selected from R^b;

each R^b is independently selected from:

(1) halogen,
(2) C_{1-10}alkyl,
(3) C_{3-8}cycloalkyl,
(4) cycloheteroalkyl,
(5) aryl,

(6) arylC_{1-4}alkyl-,
(7) heteroaryl,
(8) heteroarylC_{1-4}alkyl-,
(9) -OR^i,
(10) -$NR^iS(O)_{m}R^i$,
(11) -$S(O)_{m}R^i$,
(12) -SR^i,
(13) -$S(O)_2OR^i$,
(14) -NR^iR^i,
(15) -$O(CR^kR^k)_{n}NR^iR^i$,
(16) -$C(O)R^i$,
(17) -CO_2R^i,
(18) -$CO_2(CR^kR^k)_{n}CONR^iR^i$,
(19) -$OC(O)R^i$,
(20) -CN,
(21) -$C(O)NR^iR^i$,
(22) -$NR^kC(O)R^i$,
(23) -$OC(O)NR^iR^i$,
(24) -$NR^kC(O)OR^i$,
(25) -$NR^kC(O)NR^iR^i$,
(26) $-CF_3$, and
(27) $-OCF_3$.

each R^i is independently selected from:

(1) hydrogen,
(2) C_{1-8}alkyl,
(3) C_{2-8}alkenyl,
(4) C_{2-8}alkynyl,
(5) C_{1-4}perfluoroalkyl,
(6) cycloalkyl,
(7) cycloalkyl-C_{1-6}alkyl-,
(8) cycloheteroalkyl,
(9) cycloheteroalkyl-C_{1-6}alkyl-,
(10) aryl,
(11) heteroaryl,

(12) aryl-C_{1-6}alkyl-, and

(13) heteroaryl-C_{1-6}alkyl-,

wherein each alkyl, cycloalkyl, cycloheteroalkyl, aryl, and heteroaryl is unsubstituted or substituted with one or two substituents selected from hydroxy, methoxy, acetoxy, halogen, cyano, and trifluoromethyl,

and each alkyl, cycloalkyl, cycloheteroalkyl may be substituted on a carbon or sulfur atom with one or two oxo substituents; and each cycloalkyl, cycloheteroalkyl, aryl and heteroaryl may be substituted with methyl;

each R^b is independently selected from hydrogen, C_{1-6}alkyl, C_{1-6}alkylcarbonyl-, arylC$_{1-3}$alkyl-, and arylcarbonyl-, wherein the alkyl and aryl moieties may be unsubstituted or substituted with one, two or three substituents independently selected from hydroxy, methoxy, acetoxy, halogen, trifluoromethyl, cyano, and aryl may also be substituted with methyl;

m is selected from 1 and 2; and

n is selected from 1, 2, and 3;

As can be seen there is one substitution on another. Not only that these substitutions can be multiple. For example the R1 cycloheteroalkyl moiety can be substituted by one, two, or three substituents independently selected form Rb.!

The example given on page 82, 78 and 79 where they say that the R1 is a cyloheteroalkyl is a piperidine is incorrect. It is a pyrrolidinyl and not further substituted.

If you were to see the definition in the specification the definition is ambiguous.

The widely used textbook "Organic Chemistry" by Fessenden says on page 451 that the compounds must be aromatic but that any and all of the atoms in the ring may be selected from the entire periodic table. The widely used "Condensed Chemical Dictionary" also implies that a heterocycle must be aromatic but that only 5 or 6 membered ring compounds with sulfur or nitrogen, not every possible atom are included in the meaning of 'heterocycle". The less widely used textbook "Introduction to Organic Chemistry" by Streitwieser on page 1061 defines 'heterocycles" as both aromatic and nonaromatic. It further implies that the nitrogen, oxygen, and sulfur atoms are commonly meant and that any size ring falls under the rubric of the word.

The Board of Patent Appeals and Interferences held, and the court affirmed *In re*

Hawkins , In re Hawkins, 179 USPQ 157

" Finally, with regard to the rejection for "lack of support," the board stated:

We agree with the examiner that the broad limitations to "aryl" in claims 2, 4, and 8, "alkyl" in claims 8, 17, 40, 41, 42, 44, 45, 56 to 61, and 65, and "aliphatic" in claims 15, 31, 33, 38, 40 to 43, 56, 57, and 64 are not supported in their scope by the specification. [2] The "aryl" groups could be multiple rings, counting as many as twenty or more. Clearly this breadth is not shown to be supported by the original disclosure. Compounds having such complex configurations would not be expected to have even the imprecisely disclosed utility of forming valuable monomers. The same is true of the claimed "alkyl" radicals which may have unlimited chain lengths. Likewise, the "aliphatic" moieties include undisclosed acetylenic unsaturations or diolefinic unsaturations which may have undesirable reactions with the peroxides and may even cause polymerization in an unfavorable manner."

In re Wiggins 179 USPQ 421 that "It must also be noted that the claim terminology is so broad that it does not even require that the heterocyclic group contain a carbon atom. Heterocyclic ring systems containing phosphorus, boron, silicon, and other elements in addition to nitrogen and oxygen without the inclusion of carbon atoms are well-known and could not be expected to produce compounds having the properties herein claimed."

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita J. Desai whose telephone number is 571-272-0684. The examiner can normally be reached on Monday - Friday, flex time..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571-272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rita J. Desai/
Primary Examiner, Art Unit 1625

December 7, 2009